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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,355	09/15/2000	David D. Huo	2925-455P	1841
30594	7590	06/28/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			NG, CHRISTINE Y	
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			2663	/ /
DATE MAILED: 06/28/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/663,355	HUO, DAVID D.
	Examiner Christine Ng	Art Unit 2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 April 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-4, 6-9, 11-14 and 16-23 is/are allowed.
- 6) Claim(s) 5, 10, 15, 24, 25 and 27 is/are rejected.
- 7) Claim(s) 26 and 28-30 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 September 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 5, 15, 24, 25 and 27 are rejected under 35 U.S.C. 102(e) as being unpatentable by U.S. Patent No. 6,594,252 to Barany et al.

Referring to claims 5 and 15, Barany et al disclose in Figure 6 a communication method comprising transmitting a first information (traffic and control signals) on a single frequency carrier in accordance with a first multiframe structure (multiframe, Element 606) having x (51) frames, x (51) being an integer. The method also comprises transmitting a second information (traffic and control signals) on the same single frequency carrier in accordance with a second multiframe structure (superframe, Element 608) having y (26) frames, y (26) being an integer different than x (51). The method also comprises transmitting a third information (traffic and control signals) on the same single frequency carrier in accordance with a third multiframe structure (hyperframe, Element 612) having z (2,048) frames, z (2,048) being an integer different than x (51) and y (26). Refer to Column 6, lines 63-67, Column 7, lines 1-16 and Column 11, line 6 to Column 12, line 18. The frame structure including the multiframe,

superframe and hyperframe are carried on the same frequency carrier (Figure 1A, Element 28) "for communicating packet-switched data traffic and associated control signals" (Column 3, lines 47-49).

Referring to claim 24, Barany et al disclose in Figure 6 a method for providing air interface channels in a communications network comprising time multiplexing a plurality of different multiframe structures (multiframe, Element 606; superframe, Element 608; hyperframe, Element 612) onto a single frequency carrier to accommodate different channel types (traffic and control signals) defined by the plurality of different multiframe structures (Elements 606, 608, 612) on the same single frequency carrier. Refer to Column 6, lines 63-67, Column 7, lines 1-16 and Column 11, line 6 to Column 12, line 18. The frame structure including the multiframe, superframe and hyperframe are carried on the same frequency carrier (Figure 1A, Element 28) "for communicating packet-switched data traffic and associated control signals" (Column 3, lines 47-49).

Referring to claim 25, Barany et al disclose in Figure 6 that the time multiplexing includes time multiplexing a first multiframe structure (multiframe, Element 606) of x (51) consecutive frames, a second multiframe structure (superframe, Element 608) of y (26) consecutive frames, and a third multiframe structure (hyperframe, Element 612) of z (2,048) consecutive frames, x (51), y (26) and z (2,048) being different positive integers, with values x (51), y (26) and z (2,048) selected so that a given frame number for the first (multiframe, Element 606), second (superframe, Element 608) and third (hyperframe, Element 612) multiframe structures simultaneously re-occurs every $x \cdot y \cdot z$ (2,715,648) frames. Refer to Column 7, lines 1-16.

Referring to claim 27, Barany et al disclose that the different channel types include common control channels, broadcast control channels and traffic channels. "The channels employed in the packet data link include packet broadcast control channels (PBCCH), packet common control channels (PCCCH), and packet data traffic channels (PDTCH)" (Column 5, lines 39-42).

3. Claim 10 is rejected under 35 U.S.C. 102(e) as being unpatentable by U.S. Patent No. 6,178,185 to Marks. Marks discloses in Figure 4 a communication method comprising transmitting a first information (data) on a single frequency carrier in accordance with a first multiframe structure (extended superframe, ESF) having x (24) frames, x (24) being an integer. Each ESF "contains one framing bit plus 24 8-bit channels" (Column 4, lines 16-17). The method also comprises transmitting a second information (signaling information) on the same single frequency carrier in accordance with a second multiframe structure (four bits per ESF) having y (4) frames, y (4) being an integer different than x (24), wherein a current frame number (A, B, C or D) for the second multiframe structure (four bits per ESF) is derived from parameters that represent a current frame number (6, 12, 18 or 24) for the first multiframe structure (ESF). The four bits of the ESF, ABCD, is taken from the LSB of the 6th, 12th, 18th and 24th frame of each ESF. Refer to Column 4, lines 15-24.

Response to Arguments

4. Applicant's arguments filed April 27, 2004 have been fully considered but they are not persuasive.

Referring to the argument of claims 5, 15, 24, 25 and 27 (Page 9, line 20 to Page

10, line 12), Barany et al disclose that the base station and mobile units are capable of communicating with two sets of carriers, one for circuit-switched data and one for packet-switched data. However, Figure 6 shows "the frame structures for the packet data link" (Column 7, lines 1-2). The packet data is carried on the same carrier (200-KHz carrier), which is different from the carrier (30-KHz carrier) used for circuit-switched data. Refer to Column 3, lines 42-49 and Column 4, lines 1-8. All frame structures (multiframe, Element 606; superframe, Element 608; hyperframe, Element 612) are associated with packet data and are therefore carried on the same single frequency carrier. Furthermore, Barany et al disclose the use of the IS-136 standard (Abstract). According to the IS-136 standard, TDMA frames are transmitted on a single frequency carrier. In U.S. Patent No. 6,539,010, Hagerman et al disclose in Figure 1 that three users (A, B, C) of an IS-136 system are each allocated two of the six time slots "in each frame on a single carrier frequency". Refer to Column 1, lines 52-67.

Referring to the argument of claim 10 (Page 10, lines 20-26), Marks et al do not specifically disclose that the second information (signaling information) is transmitted on the same single frequency carrier as the first information type (data). However, robbed bits (signaling information) are carried on the same frequency carrier as the data, since the robbed bits are extracted from the data bits. Furthermore, Marks et al disclose the use of the T1 system (Column 1, lines 31-37). According to the T1 standard, one single digital carrier is shared among multiple users using TDM. In U.S. Patent No. 6,009,106, Rudstad et al disclose that a single T1 carrier is divided into multiple channels using TDM technology, in which the channels are "created by a multiplexer that divides a

digital carrier into separate, individual time segments". Each time segment is allocated for a single user. Refer to Column 1, lines 32-37. Signaling information is carried on the same digital carrier and is placed on the LSB of the 6th, 12th, 18th and 24th frame. Refer to Column 8, lines 6-51 and Figures 4-5.

Allowable Subject Matter

5. Claims 1-4, 6-9, 11-14 and 16-23 are allowed.
6. Claims 26 and 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng C^
June 22, 2004



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